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## Provisional Application

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Date of Deposit: February 1, 1999

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### Cover Sheet and Letter of Transmittal

Box: Provisional Patent Application  
Commissioner of Patents and Trademarks  
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Dear Sir:

Please file these documents as a **PROVISIONAL APPLICATION** under 35 U.S.C §111 (b).

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The title of the invention is: **Aggregating On-Line Purchase Requests**

Attorney Docket Number is: **EWG-086**,

Attorney name: **Elmer Galbi**, Attorney Registration number 19,761

This invention was not made under contract with an agency of the U.S. Government.

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Enclosed are:

- 1) A specification describing the invention 21 pages and twelve drawings.
- 2) A check for \$150.00 (EWG # 2487) covering the filing fee.
- 3) A return card for filing notification.

Please charge any deficiency in the enclosed fee (or credit any overpayment) to Deposit account 500,433 which is in the name of Elmer Galbi.

Respectfully submitted,

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1 can purchase at a volume price. The price paid is based on the number of members  
 2 in the group. This is done without the members of each temporary group having any  
 3 interaction with each other and without the members of each temporary group  
 4 knowing anything about the other members of the temporary group. The price at  
 5 which products are sold is based upon the number of individuals that join each  
 6 particular group. By aggregating individual purchasers into temporary buying groups  
 7 on a real time basis, the invention reduces supplier sales and marketing costs. The  
 8 present invention provides a "just in time demand system" which has advantages  
 9 that are somewhat similar to the those of the widely used just in time supply systems.  
 10 The invention operates in several steps which are termed a "buy cycle". In the first  
 11 step a product description is posted on a web page. The web page also lists a price  
 12 schedule which specifies a series of prices based upon the number of purchasers for  
 13 the product. Prospective purchasers then enter their orders via the internet. A  
 14 counter on the web page shows the number of purchasers who have entered orders.  
 15 A buy cycle is closed based upon a pre-established criteria such as after a fixed  
 16 period of time, after a preset number of orders have been submitted, or after a  
 17 criteria which taken into consideration the rate at which orders are being received.  
 18 After a buy cycle is closed the orders are process, products are shipped to the  
 19 customers and the customers credit cards are charged.

20  
 21 **Brief Description of the Drawings:**

- 22 Figure 1 shows the layout of a web page.  
 23 Figure 2 shows a flow diagram of the membership process.  
 24 Figure 3 shows a flow diagram of the decision guide process.  
 25 Figure 4 shows a flow diagram of beginning a buy cycle.  
 26 Figure 5 shows flow diarg of the end of a buy cycle.

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- 1 Figure 6 shows the watchdog cycle.
- 2 Figure 7 shows the opening of a buy cycle.
- 3 Figure 8 shows the no slice subroutine.
- 4 Figure 9 shows the maximum buy subroutine.
- 5 Figure 10 shows the current buy subroutine.
- 6 Figure 11 shows the price buy cycle.
- 7 Figure 12 shows the current price subroutine.

8

9 **Detailed Description of a Preferred embodiment:**

10 The preferred embodiment of the present invention provides a web site which gives  
11 purchaser's (i.e. customers) a "just in time" demand experience. Prospective  
12 purchasers who visit the web site are provided with decision tools and product  
13 information necessary to make intelligent purchasing decisions. Once a product is  
14 selected, customers are presented with a price schedule based on volume levels.  
15 Customers may simply purchase at the posted price or launch a buying cycle.

16

17 A buying cycle is a purchasing cycle that aggregates demand for a particular product  
18 within a given period of time. Buying cycles are take into account two types of  
19 purchase behaviors:

- 20 1. Destination demand – customers who come specifically to purchase a product
- 21 2. Latent demand – those customers who have previously provided buying profiles  
22 and wish to be notified when certain purchasing requirements are met. These  
23 customers are notified via email when their requirements are matched.

24

25 At the time a customer joins a buying cycle, the customer is made aware of the  
26 MAXIMUM price they would have to pay should no other customers join that cycle.

1 As additional customers join the buying cycle, the unit price declines. With the  
2 present invention buyers work together instead of against each other. In online  
3 auctions customers bid against each other. Once a buying cycle is closed, the  
4 system completes the transaction in a conventional manner by processing orders  
5 based on the volume attained.

6

7 The invention is implemented by means of application program which runs on a  
8 conventional web server. The web server can be any of the conventionally used web  
9 servers such as those marketed by Sun Microsystems Corporation or those marketed  
10 by the Microsoft Corporation. Such servers operate under a system control program  
11 which in turn calls an application program. For example the Microsoft IIS 4.0 Web  
12 Server program has an associated Microsoft Site Server program that provides basic  
13 cataloging functionality, order processing capability and a transaction pipeline which  
14 performs such operations as calculating tax due, and credit card verification. The  
15 preferred embodiment of the invention as described herein is implemented as an  
16 application program or web site operating under a server operating system.

17

18 The web site which implements the present invention includes a number of linked  
19 web pages and a computer program which implements various functions required in  
20 order to implement the invention. The web site is conventional except for the specific  
21 functions described herein. The manner in which the web pages are accessed and  
22 the manner in which the program described below is integrated into the site  
23 operating system are conventional and thus they are not specifically described  
24 herein. Reference is made to text books such as the following for a description of  
25 how web sites are implemented and for a description of how application programs  
26 are operated on a web site:

- 1) Information Architecture for the World Wide Web by: Louis Rosenfeld, Peter Morville / O'Reilly & Associates / March 1998
- 2) Web Design Resources Directory : Tools and Techniques for Designing Your Web Pages by: Ray Davis, Eileen Mullin Published 1997
- 3) Microsoft Internet Information Server 4 : The Complete Reference (Complete Reference) by: Tom Sheldon, et al / Paperback / Published 1998

The primary actions on the web site which implements the present invention take place during what is termed a "buy-cycle". During a buy cycle, customers indicate that they want to buy a particular product and orders are accumulated. The number of orders accumulated during a buy cycle determines the price at which the particular product is sold.

Figure 1 shows a block diagram of a web page referred to as the "order web page" and designated as web page 2. . The order web page includes:

- a) a product description window 3 which includes a description of a particular product,
- b) a price-volume window 4 which lists the price for various volumes of the product,
- c) an orders received window 5 which lists the number of orders received during the active buy cycle,
- d) a "buy-button" 6 to indicate a buy decision,
- e) a time remaining window 7 which shows the time remaining in the particular buy cycle, and

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1 f) a buy cycle closed window 8 which shows that the particular buy cycle has  
2 been closed.

3 g) a heading and logo window 9 which gives information about the company.

4 The following is a specific example of a price schedule that appears in price volume  
5 window 4:

Items ordered in the cycle:	Unit price:
1-10.	500
11-30.	475
31-50.	450
50-100	425
100+	400

6  
7 It is noted that Figure 1 is a block diagram of a web page. An actual web page would  
8 include colors and graphics to make the web page appealing to consumers. The  
9 web page could also include various other related information, links and choices.

10  
11 Customers who visit the web site can order the product by pressing (i.e. clicking on)  
12 the buy button 6. The number of customers who have ordered the particular product  
13 during the particular buy cycle is shown in the orders received window 5. The time  
14 remaining in the particular buy cycle is shown in window 7. When the buy cycle  
15 ends, no further orders are accepted for the particular product during that particular  
16 buy cycle and the orders are filled and the customers are charged in a relatively  
17 conventional manner.

18  
19 As indicated in Figure 2, the web site includes a mechanism for registering  
20 prospective customer. The registration process is conventional and the web site



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1 includes a web page (not explicitly shown herein) which includes fields in which a  
2 customer can enter registration information. As indicated by blocks 21 and 22,  
3 advertisements or word of mouth brings prospective customers to a home page (or  
4 entry point) 23 on the web site. The home page 23 describes the system and  
5 provides a mechanism for prospective customers to indicate that they would like to  
6 register for use of the site. Prospective customers can either register as "guests"  
7 without payment of any fee or as "members" which requires payment of a fee. As  
8 will be explained later, customers who pay a membership fee and register as  
9 members obtain certain privileges. Web sites which allow for both guests (at no fee)  
10 and members (with the payment of a fee) are conventional. As indicated by block  
11 24, both guests and prospective members provide information which is collected to  
12 generate a profile 25. If a member or guest orders a product, the information in their  
13 profile is used to bill their credit card as shown by block 26. Such operations are  
14 conventional.

15  
16 After a prospective customer has registered as either a member or as a guest as  
17 described above, the customer can login as indicated by block 31 in figure 3. As  
18 indicated by block 33, once a customer has logged into the system they are provided  
19 with a "solutions guide" web page 33 which helps the customer pick an appropriate  
20 product. The solutions guide web page 33 includes hyperlinks to buying preferences  
21 survey web page 32 and a review and rating web page 34. As a result of the help  
22 provided by web page 33, the customer makes a choice as indicated by block 35. If  
23 the customer's choice is for a product that already has an active buy cycle, the  
24 customer's choice results in an order in that buy cycle as indicated by block 36. If  
25 the customer's choice is not a product which has an active buy cycle, a buy cycle is  
26 initiated as indicated by block 37. At a pre-established time, the buy cycle closes as

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1 indicted by block 38 and the product is shipped and the customer is charged as  
2 indicated by block 39.  
3  
4 Figures 4 to 12 give detailed program flow diagrams of the programs that operate  
5 during a buy cycle. Once a buying cycle starts, a series of individual purchase  
6 requests are collected by a central server referred to herein as the primary  
7 aggregation server. Instead of having one primary aggregation server, individual  
8 purchase requests can be collected by a number of distributed secondary  
9 aggregation servers. That is, the individual purchase requests can be collected by a  
10 number of remote computers linked to an aggregation server through a  
11 communication link.  
12  
13 Buy-cycles can be started at any time\). Buy cycles end when a preset number of  
14 purchase requests have been exceeded, or if a preset time limit has elapsed. Prior  
15 to the start of a buy cycle, a price-point structure is set by a system administrator (not  
16 shown). The system administrator sets a minimum and maximum number of  
17 purchase requests for each price point and this information is listed on the order web  
18 page 2. Prospective customers therefore have accurate price information at all times  
19 time during the buy-cycle. As each purchase request is entered and validated into  
20 the aggregation server during the buy-cycle, a counter is incremented (or  
21 decremented) identify the current number of purchase requests. When the buy-cycle  
22 closes, the counter is consulted to establish the final price attributed to the buy-cycle.  
23  
24 Each buy-cycle relates to a particular item for sale with a price structure constructed  
25 as follows:

1 **Table A.1: Price Structure Construction**

Slice Number	Number of Items		Price
	Minimum	Maximum	
0	$n_0=0$	$n_1-1$	$P_0$
1	$n_1$	$n_2-1$	$P_1$
2	$n_2$	$n_3-1$	$P_2$
3	$n_3$	$n_4-1$	$P_3$
$m-1$	$n_{m-1}$	$n_m$	$P_{m-1}$

2

3

4 The price structure is divided into " $m$ " price slices, each with a corresponding price  
 5 " $P_m$ ". For each price slice, there is a minimum number of items for sale " $n_m$ " and a  
 6 maximum number of items " $n_{m-1}-1$ ". A representative example is as follows: :

7

8 **Table A.2: Price Structure for Sample Buy-Cycle**

Slice Number	Number of Items		Price
	Minimum	Maximum	
0	0	3	\$10.00
1	4	9	\$9.75
2	10	11	\$9.00
3	12	49	\$8.00
4	50	199	\$6.50

9

10 Note:

1 1. By definition, a price structure as at least two (2) price slices.

2 2. The largest maximum number of items for the last price slice corresponds to the

3 cut-off point, which, if reached, will end the buy-cycle.

4

5 In order to manage buy-cycles, the following operations are defined. Each buy-cycle

6 is identified through a unique buy-cycle identifier called `buy_cycle_id`.

7 1. `Begin(buy_cycle_id, time_t)`, which initializes and starts a buy-cycle that will last

8 until `time_t`,

9 2. `End(buy_cycle_id)`, which terminates the buy-cycle either manually or by being

10 called from the buy-cycle watchdog, and

11 3. `Watchdog(buy_cycle_id)`, which automatically supervises the status of a selected

12 buy-cycle.

13

14 The following operators are defined to determine state information about buy-cycles:

15 1. `Open(buy_cycle_id)`, which returns a boolean result on whether or not the buy-

16 cycle referenced by the unique buy-cycle identifier `buy_cycle_id` is active,

17 2. `No_slice(buy_cycle_id)`, which returns the number of slices `m` for the specified

18 buy-cycle,

19 3. `Max(buy_cycle_id)`, which returns `nm` for the specified buy-cycle,

20 4. `Current(buy_cycle_id)`, which returns the current number of purchase requests for

21 the buy-cycle, represented as `ncurrent`,

22 5. `Price(buy_cycle_id, n)`, which returns the price point for the specified cycle with `n`

23 purchase requests, and

24 6. `Price_current(buy_cycle_id)`---the logical equivalent of

25 `price(buy_cycle_id, n_current)`, which returns the price point corresponding to

26 the current number of purchase requests.

Figure 4 shows the process that is called whenever a defined buy-cycle needs to be set into active mode. For example this could occur as indicated by box 37 in Figure 3. As indicated by block 210, a subroutine named open() and which is shown in Figure 7 determines if the particular buy cycle is already open. If the buy cycle called is already open, this information is returned to the main program as indicated by block 211. This could either mean that there has been some error or it could be a notice to the main program to go to block 36 shown in Figure 3. As indicated by block 212, if the buy status is not active, the status is set to active. Next, as indicated by block 213 the time limit for the buy cycle is set to a value time\_t. As previously indicated the value time\_t could either be a fixed value or it could be determined in a number of ways dynamically.

At the end of a buy cycle, the subroutine shown in Figure 5 is called. First as indicated by block 220, a determination of whether the cycle is already open is made by the subroutine open(). If the buy cycle is not open, no action is taken as indicated by block 221 and control is returned to the calling program. If the buy cycle is open, the status is set to inactive as indicated by block 222 and the buy cycle administrator (which could be another program or a human operator) is notified as indicated by block 223. At this point the orders that have been entered during the buy cycle are executed in a conventional manner. That is the products are shipped and the customer's credit cards are charged.

Figure 6 shows the subroutine called "watchdog" which operates while a buy cycle is active. The watchdog process oversees the status of a specific buy-cycle from its inception until the buy-cycle is either terminated manually or when certain buy-cycle-

1 specific limits have been achieved. As indicated by block 230 and 231 a check is first  
 2 make to insure that the buy cycle is in fact open. As indicated by blocks 232, 233  
 3 and 234, the current time and the buy cycle expiration time are obtained and  
 4 compared. As indicated by block 234 if the if the buy cycle time has ended the sub  
 5 routine end() is called. Blocks 235, 236 and 237 indicate the if the buy cycle is  
 6 active, the current number of requests is obtained and compared to the maximum  
 7 number of requests. If the number of requests exceeds the maximum bnumber  
 8 allowed, teh buy cycle is ended. If the number of requests is less than the manixum,  
 9 the subroutine goes to sleep for a period of time as indicated by block 239 and it  
 10 them repeats. Providing such a sleep period for such a subroutine is conventional.

11  
 12 Figure 7 shows the subroutine with is used to determine if a buy cycle with a  
 13 particular ID is open. A conventional data base (not explicitly shown) is used to store  
 14 the ID's of the open buy cycles. blocks 240 and 241 indicate that the ID of a buy  
 15 cycle is compared to data in a data base and then a determination is either made the  
 16 by buy cycle is active (block 242) or a determination is made that the buy cycle is not  
 17 active (block 243).

18  
 19 Figure 8 shows the subroutine which is used to determine the number of price slices  
 20 within a buy-cycle. This subprogram sets the value of the variable "m". As indicated  
 21 by blocks 250 and 251, the number of rows in the table (see above table 1) for a  
 22 particular buy cycle ID is obtained and used to set the value of the variable "m".  
 23 Block 260 and 270 in Figures 9 and 10 shows how the variables "no\_items\_max"  
 24 and "no\_items\_current" are set. Figure 9 shows how the maximum number of items  
 25 available for the buy-cycle is determined. Figure 10 shows the current number of  
 26 purchase requests within the buy-cycle is determined. It is noted that the SQL calls

1 are a standard technique for getting data from a data base such as the commercially  
2 available and widely used Oracle data base marketed by Oracle Corporation or the  
3 widely used Access data base marketed by Microsoft Corporation. The particulars  
4 of the data based used to store various information used by the described  
5 embodiment of the invention are conventional and not explicitly shown herein.

6

7 Figure 11 shows how the price at which orders are executed at the end of a buy  
8 cycle. That is the operator illustrated in Figure 11 is used to calculate the price  
9 corresponding to the a given number of purchase requests within the buy cycle.

10 Block 280 shows that at the beginning of the subroutine the variables are initialized.

11 Next as indicated by block 281, an SQL call to the data base is made to set the  
12 variables P\_O and n\_o. Blocks 282 and 283 show that the variable m is  
13 incremented and that the value of the variable P\_m and n\_m is obtained from the  
14 data base. Next as indicated by block 284 a check is made to determine if n\_m is  
15 greater than n. As indicated by block 285, if it is larger the price is set to P\_(m-1). If  
16 it is smaller, a check is made by block 286 to determine if n equals m. If it does the  
17 price is set to P\_m. If it is not the process repeats to block 282.

18

19 Figure 12 shows a block diagram of the operator used to calculate the price  
20 corresponding to the current number of purchase requests within the buy-cycle. First  
21 as indicated by block 290, the value of n is set. Next as indicated by block 291 the  
22 subroutine price() is called to set the price.

23

24 The present invention provides for two types of revenue flows:





- 1 b) product name and manufacturer logo
- 2 c) product availability
- 3 d) the current price i.e. The is the maximum amount the customer will have to pay
- 4 e) transaction fee which the customer must pay.
- 5 f) subtotal: i.e. the total price for all the items in the cart (shipping and tax to be
- 6 added in the next step)
- 7 g) dollar savings to on the individual product. i.e. the list price minus the current price
- 8 h) total dollar savings on all items in cart
- 9 i) a "remove" box : clicking this box will remove the item from the cart when the page
- 10 is refreshed.
- 11 j) the time and date when this cycle will close.
- 12 k) Toolbar with standad buttons for items such as Help, About Us, Feedback,
- 13 Account info, etc.
- 14 l) Special Buttons for items such as:
- 15 - quantity box
- 16 - change quantity
- 17 after changing the quantity in this box, the customer can press a button to reload
- 18 the page. The refreshed quantity box will show the request quantity. To remove
- 19 the product from the shopping cart, the customer can either check the remove
- 20 box or change the quantity in the shopping cart to zero.
- 21 - Checkout button (with text , "please verify above information and click here to
- 22 continue"
- 23 m) Links to web pages which give:
- 24 - security policy
- 25 - returns and refund policy
- 26 - cycles in progress

1

2 The web site can include a "buy cycle ticker" that communicates what's happening  
3 on the buy cycles. The buy cycle ticker is similar to a stock ticker that runs across  
4 TV and computer screens. It highlights: a product name (i.e.notebook), a brand  
5 (Toshiba); a current price (i.e. \$12000 and the number of buyers in the cycle (e.g.  
6 43). Two buy cycle tickers could be provided, one in a red color to denote immediate  
7 cycles closing, one to show cycles that will close later.

8

9 The site can include provision which a customer can activate during the registration  
10 process so that the customer will be notified by e-mail of events such as:

- 11 1) New items listed on the site.
- 12 2) The fact that a buy cycle has reached a particular price point.
- 13 3) Thank you messages.

14 E-mail can also be used to notify customers that products have been shipped and  
15 that there credit cards have been charged for a purchase.

16

17 The site includes a mechanism so that if a customer leaves the site with items in the  
18 shopping cart, the items will appear in their respective areas once the customer  
19 returns, as long as a cycle still exists for that particular product. If the cycles are  
20 discontinued for that particular product, the item should be removed from the  
21 shopping cart.

22

23 The tool bars on the various web pages can include a variety of button, For example  
24 there can be buttons to contact the supplier, a button to get account information.  
25 Various links can be provided such as links to explain company policy, links to a  
26 privacy statement. to account information and to various product selection help aids.

2 A data base program such as a conventional Oracle or Access data base would  
3 have stored therein information about the various products being offered for sale.  
4 When a new buy cycle for a particular product is initiated, information from this data  
5 base would be used to provide information for an appropriate order page such as  
6 that shown in Figure 1. Registration information about members would be kept in  
7 this same data base. An administrator would update the data base as new products  
8 become available or with other product and price changes. Such a data base for  
9 providing information for a web site would be conventional.

11 The preferred embodiment of the invention described above is only one example of  
12 how the present invention can be practiced. It should be understood that various  
13 changes in form and detail may be made without departing from the sprit of the  
14 invention. The scope of the invention is limited only by the appended claims.

[illegible]

the first sharp melting point in the thermogram of the polymer. The melting point of the polymer was 100°C, which is lower than that of the monomer (110°C). The melting point of the polymer was 100°C, which is lower than that of the monomer (110°C).

3 1) A system for facilitating the purchase of products via the internet and which  
4 operates in accordance with a buy cycle, said system comprising:

6 describes a product and which lists prices for various quantities of the product,

8 purchasers in a buy cycle and which closes said buy cycle based upon pre-

11

13 amount of time.

15 3) The system recited in claim 2 wherein said web page post the length of said fixed  
16 amount of time.

16 amount of time.

18 4) The system recited in claim 3 wherein said web page posts the amount of time  
19 remaining in said fixed amount of time.

19 remaining in said fixed amount of time.

21 5) The system recited in claim 1 wherein said buy cycle is closed after a preset  
22 number of orders has been received.

22 number of orders has been received.

24 6) The system recited in claim 1 wherein said buy cycle is closed after the rate at  
25 which orders are being received falls below a pre-established rate.

25 which orders are being received falls below a pre-established rate.

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7) A system for facilitating the purchase of products via the internet and which operates in accordance with a buy cycle, said system comprising means which posts a web page at the beginning of a buy cycle and which describes a product and which lists prices for various quantities of the product, means which accepts orders from purchasers and which tracks the number of purchasers in a buy cycle and which closes said buy cycle based upon pre-established criteria, and means which processes the orders received in a buy cycle.

8) A method for facilitating the purchase of products via the internet during a buy cycle, said method comprising

posting a web page at the beginning of a buy cycle and which describes a product and which lists prices for various quantities of the product,

accepting orders from purchasers,

tracking the number of purchasers in a buy cycle,

closing said buy cycle based upon pre-established criteria, and

processing the orders received in a buy cycle.

19 9) The method recited in claim 8 wherein said buy cycle is closed after a fixed  
20 amount of time.

22 10) The method recited in claim 9 wherein said web page post the length of said  
23 fixed amount of time.

25 11 The method recited in claim 10 wherein said web page posts the amount of time  
26 remaining in said fixed amount of time.

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- 2 12) The method recited in claim 8 wherein said buy cycle is closed after a preset  
3 number of orders has been received.  
4
- 5 13) The method recited in claim 8 wherein said buy cycle is closed after the rate at  
6 which orders are being received falls below a pre-established rate.  
7
- 8 14) The method recited in claim 8 wherein said orders are processed by charging the  
9 cost of each order to the purchaser's credit card.  
10
- 11 15) A system for selling products via the internet comprising,  
12 a web page that lists the price of a product at various volume levels,  
13 a program for establishing a buy cycle which has a pre-established termination point.  
14 a program which accepts orders for products and which posts the number of orders  
15 accepted within a buy cycle, and  
16 a program which fills the orders received during a buy cycle.  
17
- 18 16) A system for selling products via the internet comprising,  
19 a web page that lists the price of a product at various volume levels,  
20 means for establishing a buy cycle which has a pre-established termination point,  
21 means which accepts orders for products and which posts the number of orders  
22 accepted within a buy cycle, and  
23 means for filling orders received during a buy cycle.

60118189.020199

Abstract:

A system and technique which aggregates demand for products or and services on a real time basis. Individual buyers are aggregated into temporary groups. The members of a group can purchase at a volume price. The price paid is based on the number of members in the group. This is done without the members of each temporary group having any interaction with each other and without the members of each temporary group knowing anything about the other members of the temporary group. The price at which products are sold is based upon the number of individuals that join each particular group

**Figure 1,** (Web Page)

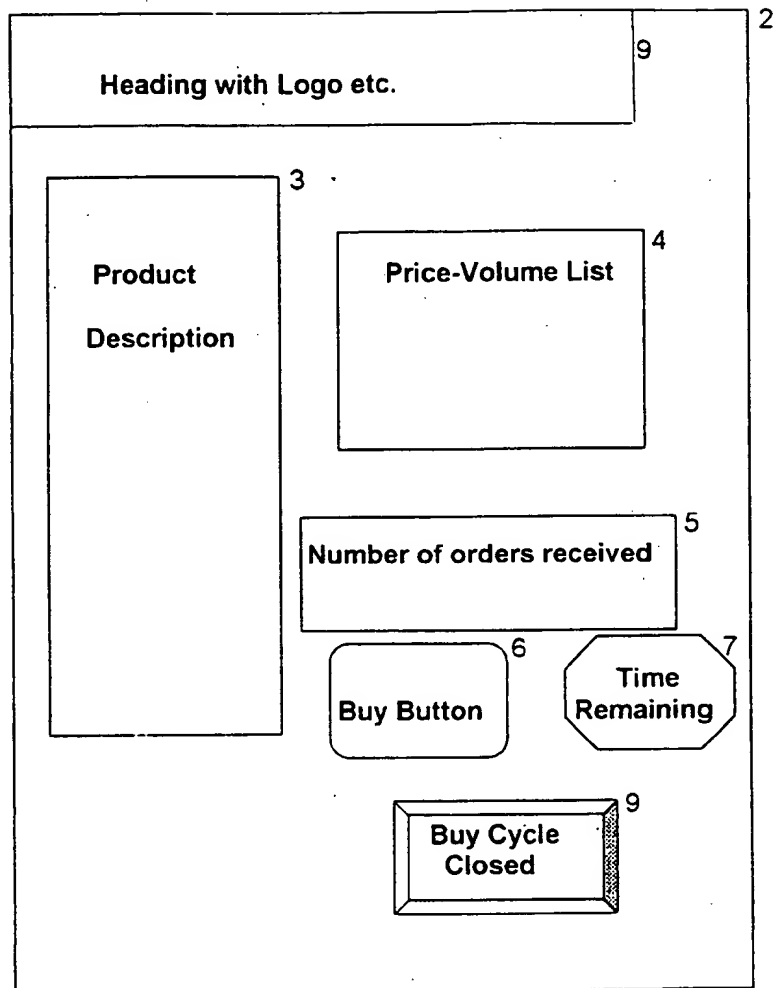
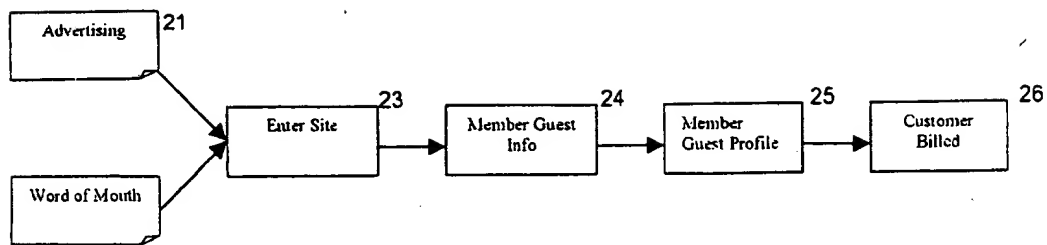


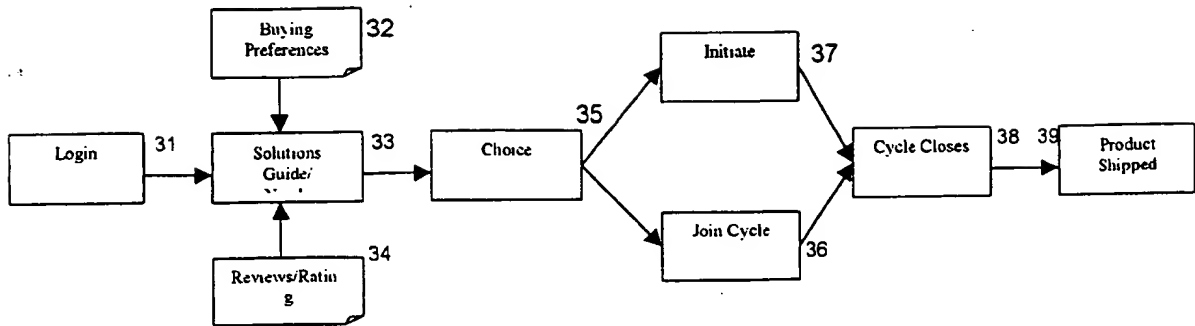


Figure 2



667020" 68137709

Figure 3

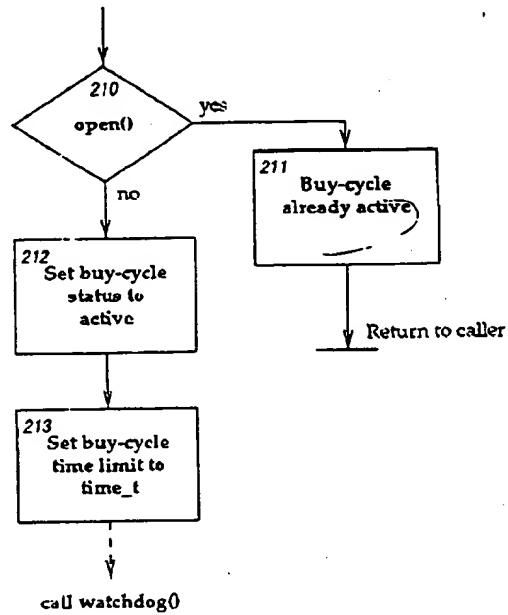


667020" 68781709

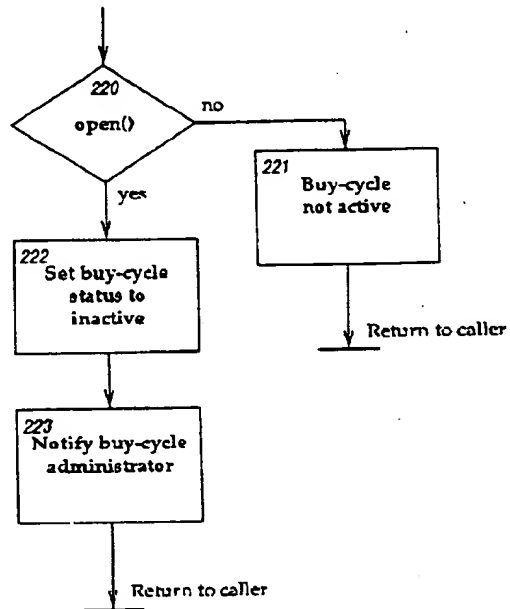
**F GURE 4**

f

**Process Flow Diagram**  
**begin(buy\_cycle\_id,time\_t)**



S0110100.0001000

**FIG 5****Process Flow Diagram****end(buy\_cycle\_id)**

66T020" 68T021T09

**FIG 6**

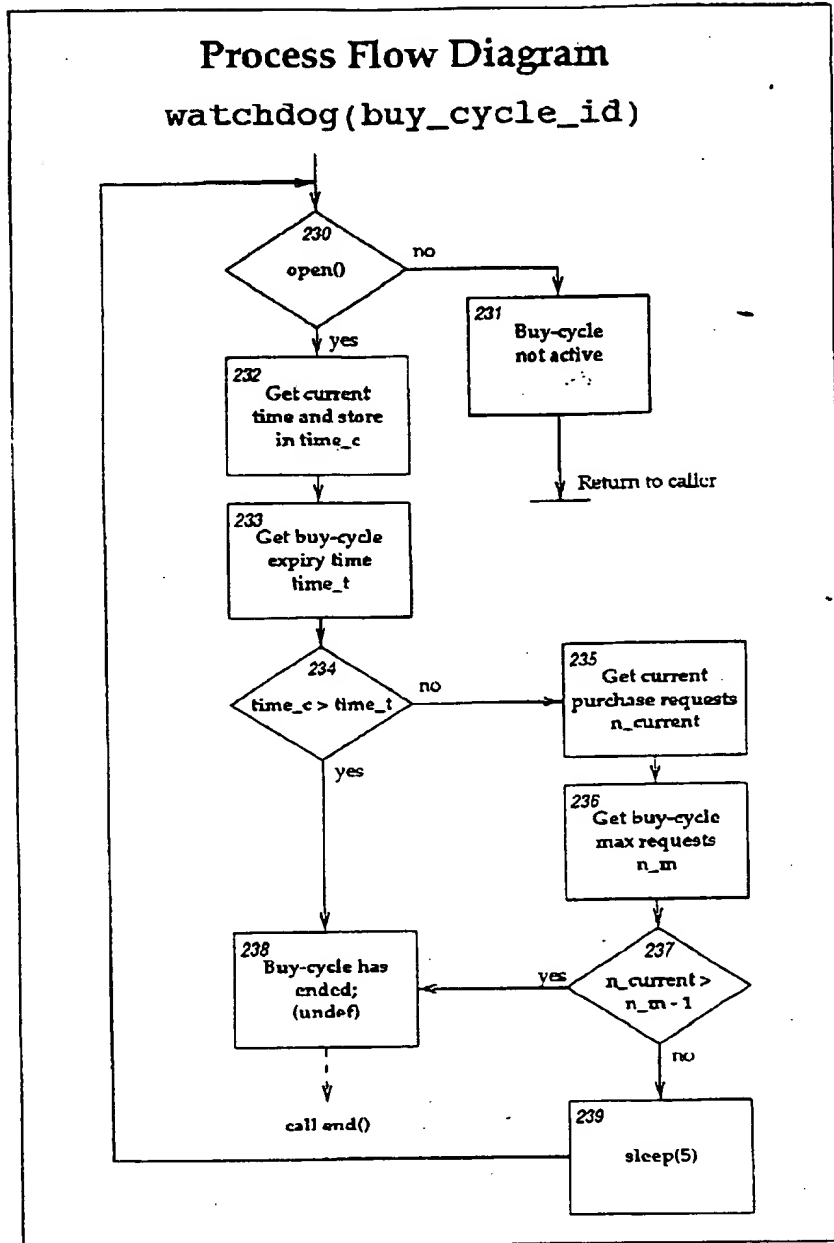
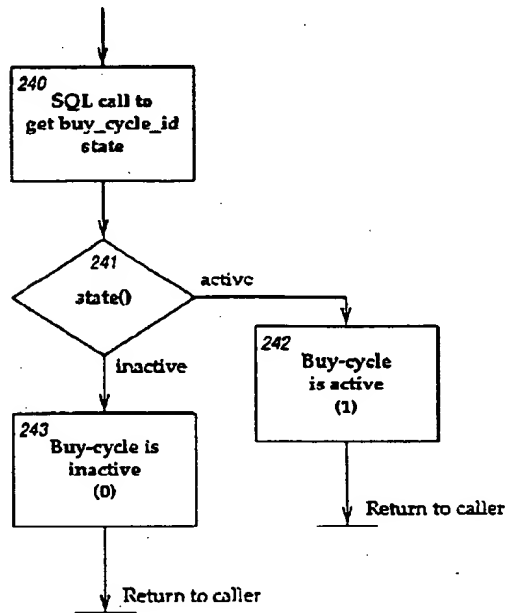


FIG 7

# Process Flow Diagram open(buy\_cycle\_id)



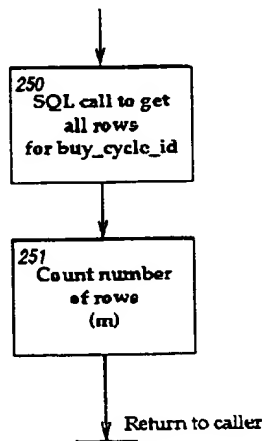
667022" 68707409

516

8

9

**Process Flow Diagram**  
**no\_slice(buy\_cycle\_id)**



60110100.000100

**FIG 9****Process Flow Diagram****max(buy\_cycle\_id)**

260  
SQL call to get  
no\_items\_max  
for row m-1

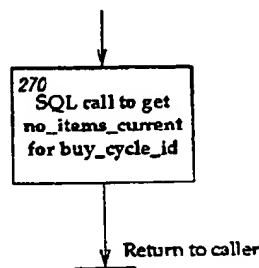
Return to caller

50118189-020199



FIG 10

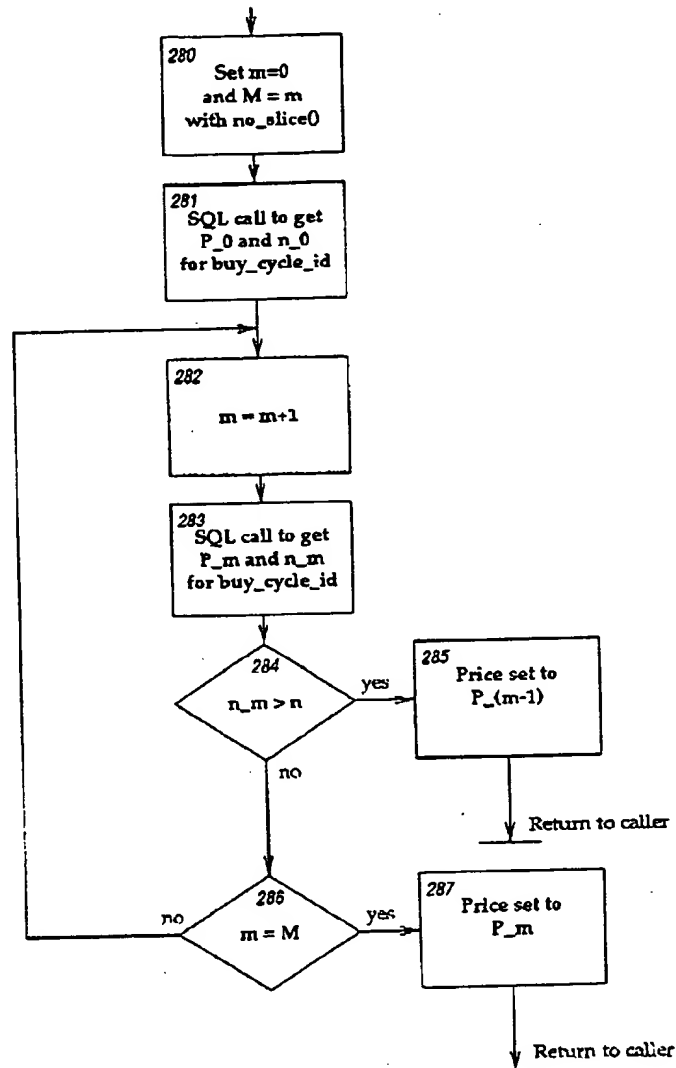
**Process Flow Diagram**  
**current(buy\_cycle\_id)**



607020-00101109

FIG 11

# Process Flow Diagram price(buy\_cycle\_id,n)



601020-6010109

FIG 12

(12)

667022-6870713

